

HIGHLY SCALABLE, FAULT-TOLERANT FILE TRANSPORT
USING VECTOR-EXCHANGE

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ABSTRACT OF THE DISCLOSURE

A file transport mechanism according to the invention is responsible for accepting, storing and distributing files, such as configuration or control files, to a large number of field machines. The mechanism is comprised of a set of servers that accept, store and maintain submitted files. The file transport mechanism implements a distributed agreement protocol based on "vector exchange."

15 A vector exchange is a knowledge-based algorithm that works by passing around to potential participants a commitment bit vector. A participant that observes a quorum of commit bits in a vector assumes agreement. Servers use vector exchange to achieve consensus on file submissions. Once a

20 server learns of an agreement, it persistently marks (in a local data store) the request as "agreed." Once the submission is agreed, the server can stage the new file for download.

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